



“Biodiversity crisis in a changing world”

6th European Congress of Conservation Biology

August 22-26, 2022, Prague, Czech Republic

Book of Abstracts

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is bare sand patches, lichens, cover of litter, trees and shrubs. The most important indicators of the quality of wooded dunes are the presence of old trees and dead wood. In all cases, the presence of invasive and expansive species can significantly affect quality. These parameters correlate with the occurrence of characteristic, rare and protected species.

Effects of an invasive grass, the sand dropseed (*Sporobolus cryptandrus*) on arthropod assemblages in sand habitats of Hungary

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The unique fauna and flora of sand habitats in the Pannonian ecoregion are strongly affected by non-native plants. Recently, a new American grass species, the sand dropseed (*Sporobolus cryptandrus*), have appeared and spread in the sandy habitats of Danube-Tisza Interfluve. We aimed to assess the effect of sand dropseed on the arthropod assemblages in sandy habitats. We sampled arthropods in three habitat types (forest-steppe, open sand grassland, and degraded sand grassland). In each habitat type, we selected five pairs of sites (invaded and non-invaded sites) and sampled the ground-dwelling and plant-dwelling arthropods by pitfall trapping and sweep-netting, respectively. We examined the activity- density and/or abundance of various arthropod groups by generalized linear models, with habitat type (forest-steppe, open sand grassland, and degraded sand grassland), dropseed invasion (invaded vs. non-invaded) and their interaction as explanatory variables. We found that the majority of arthropod groups were significantly affected by habitat type. However, the invasion of sand dropseed affected mostly the plant-dwelling arthropods (orthopterans, hemipterans flower-visiting insects) and ants, in contrast to ground-dwelling arthropods such as ground beetles and ground-dwelling spiders. In addition, the significant interacting effects suggested that arthropods were affected by dropseed invasion differently in the different habitat types.

Forest management effects on aerial fungal biodiversity

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Despite the lack of obvious barriers, populations of marine organisms can present different levels of connectivity throughout their distribution. The degree of connectivity between populations of exploited species should be considered when defining conservation measures. Here we investigated the genetic connectivity of the endemic and exploited Gray Parrotfish, *Sparisoma axillare*, in Brazil. Due to its vulnerable status, much ecological data is still needed to support sustainable management actions and protected areas implementation. Nine locations were sampled from reef systems in coastal to oceanic environments with varying levels of protection. The combination of depth, ocean currents, and distance were the major drivers explaining patterns of genetic divergence between *S. axillare* populations. Coastal populations and two off-coast sites showed high connectivity. A distinct genetic population was revealed in the waters surrounding Trindade island, located 1000 km off-coast. A large no-take area has recently been established in part of Trindade, increasing the country's marine protection. However, this loosely regulated area is located in the open ocean, excluding shallow areas. Despite bans to fisheries, these areas are still exploited. Granting Trindade full protection would provide a response to criticisms and give some respite to a unique *S. axillare* lineage.

Habitat on the move – Translocation of deadwood and associated species as a mean to improve ecological compensation

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The study objective was to test a novel method in ecological restoration/compensation, translocation of high quality deadwood and its associated species. This method could potentially solve the 'field of



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Effects of an invasive plant, the sand dropseed (*Sporobolus cryptandrus*) on arthropod assemblages in sand habitats of Hungary

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Sand dropseed

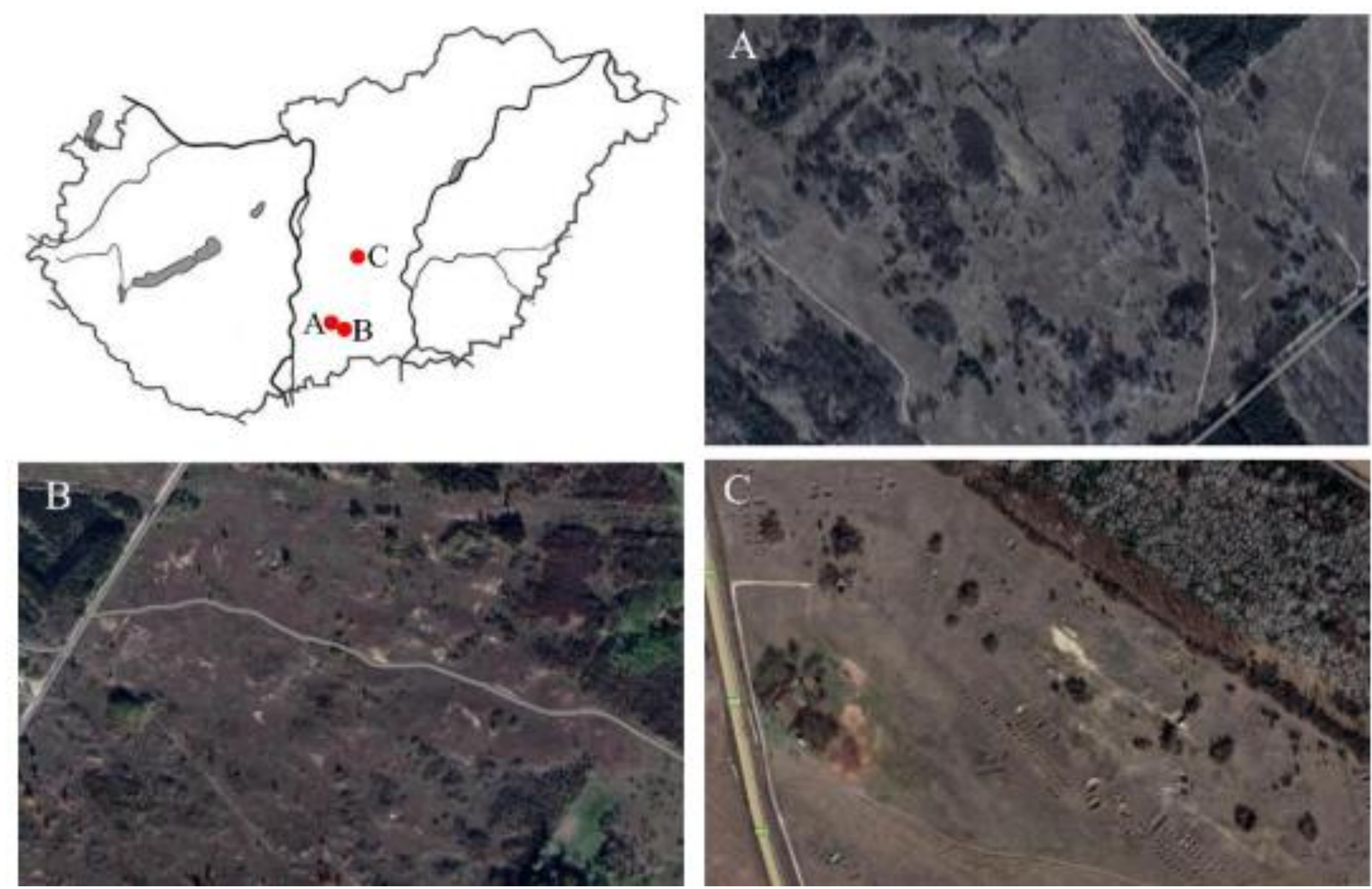
- Origin: North-America
- Dry habitats (C4 plant), characteristic plant of prairie
- Occurrence: Europe, Asia, Australia
- First record in Hungary: 2016
- Fast spreading in sand areas
- Strong effects on sand vegetation
- Steppe transformation

Questions

- Does sand dropseed invasion affect arthropod communities?
- Do possible effects of sand dropseed invasion differ between different arthropod groups?

Sampling

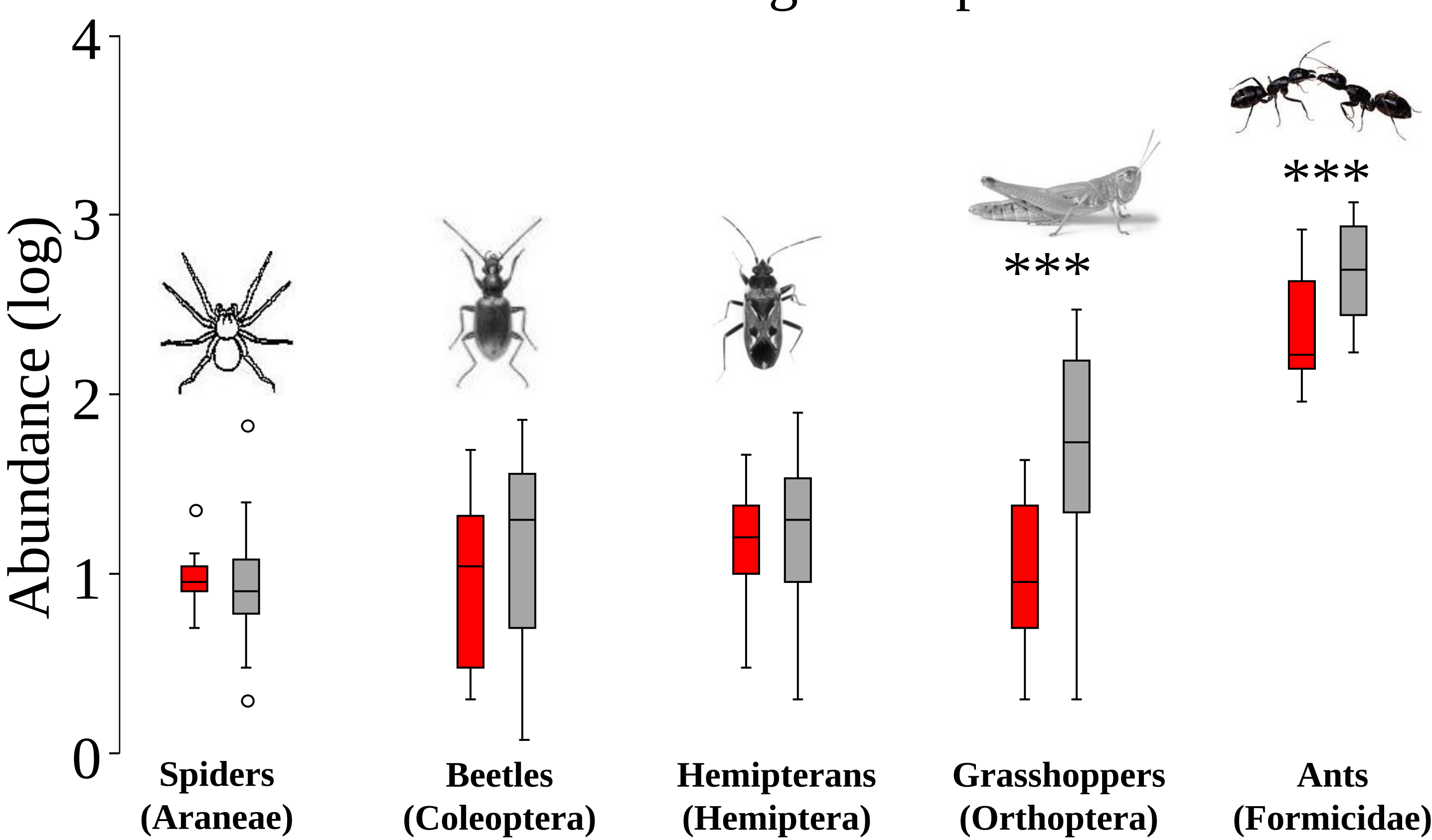
- Three habitat types: forest-steppe (A), open sand grassland (B), and degraded sand grassland (C)
- Invaded and control (non-invaded) plot-pairs in five sites in each habitat type
- Pitfall trapping, sweep netting
- GLMM, negativ binomial



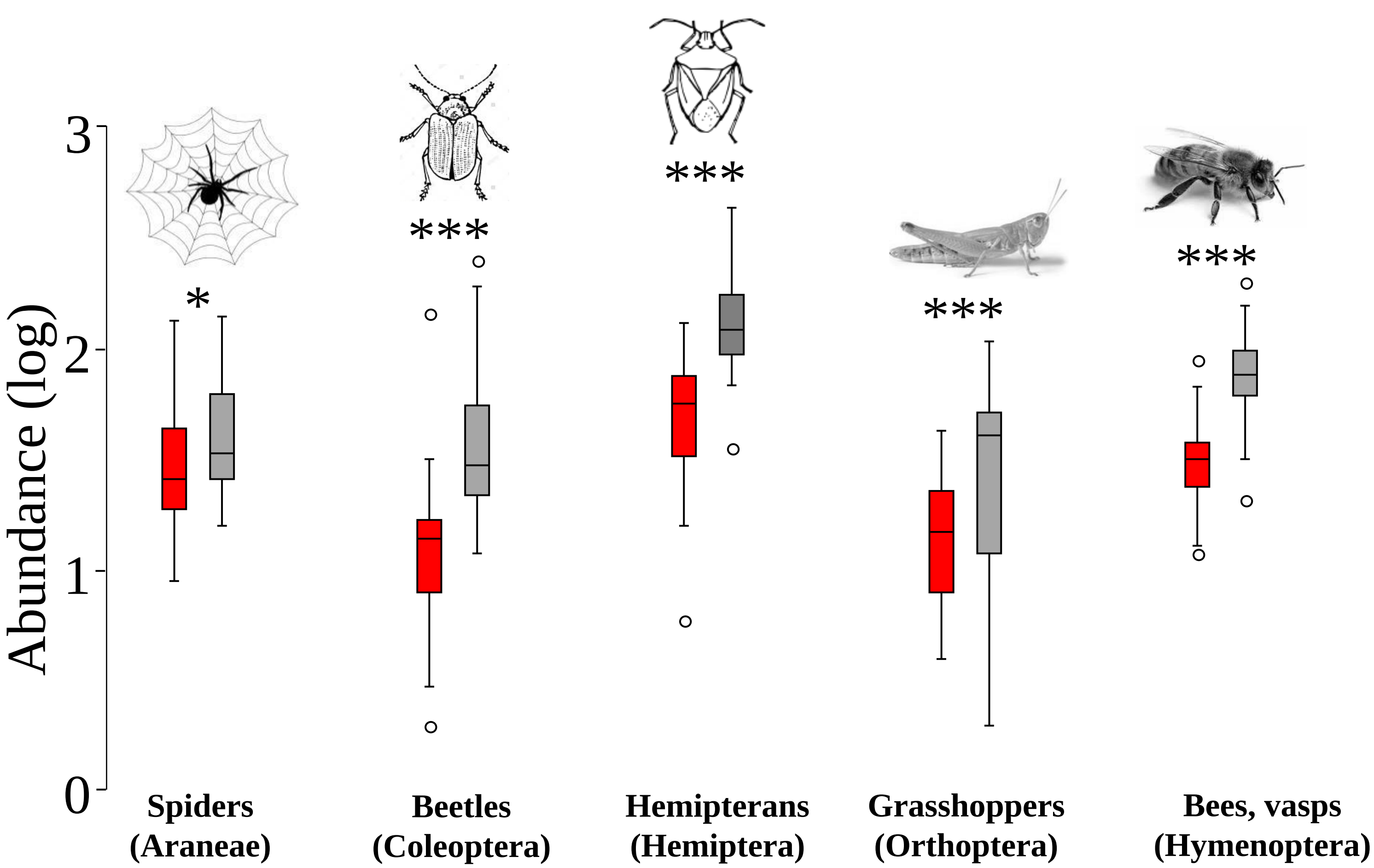
Preliminary results

■ invaded ■ control

Ground-dwelling arthropods



Plant-dwelling arthropods



Conclusions and further aims

- Strong negative effects particularly on plant-dwelling arthropod abundance
- Further analyses: species richness and composition, trait-based approaches, possible interacting effects between invasion and habitat types